

Interoffice Memorandum

July 25, 1992

To: Nate FernowFrom: Hans E. Steuch *HEJ*Subject: Stack emission considerations

Opacity: When the mill goes down, the out-of-stack opacity increases, sometimes to >5 %. Should we use hydrated lime and/or evaporative cooling (or other) to control this opacity?

- a) If PSAPCA will allow the SO₂ increase with the mill down (~350 ton/year) I believe we can control the out-of-stack opacity by evaporative cooling. (At Davenport we had no out-of-stack opacity even if we had much higher SO₂ concentrations than 200 ppm. But with the mill down we did evaporatively cool to a stack gas temperature of ~300 deg. F.)
- b) Burning coal may reduce the out-of-stack opacity. The lower hydrogen content of this fuel will decrease the moisture content of the stack gases.

When the mill goes down the in-stack opacity increases, sometimes to > 5%.

- a) Will Fuller offer any solution to the in-stack/mill down opacity other than running as hot as possible?
- b) Since the in-stack opacity increase is associated with higher gasflows this is likely to be lowered with evaporative cooling.

SO₂: The SO₂ is several times higher than 40 #/hr when the mill is down.

- a) Will PSAPCA allow the SO₂ to increase when the mill is down (a total increase over current permit of about 350 ton/year)? If yes, we're OK. If not, we have to use hydrated lime or some other form of control.

NO_x: The NO_x appears to run about 1.3 times higher than currently allowed.

- a) Will PSAPCA increase the limit?
- b) We may need experiments with the calciner, CO-levels and kiln burner settings to attempt to lower emissions.
- c) According to FLS, switching from natural gas to coal will increase the NO_x emissions.
- d) Last resort: ammonia or urea injection in calciner.

CO: We appear to be operating well within the allowable CO limit.

cc: Ken Rone

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